

From: Prasad, Sarada
Sent: Friday, June 08, 2001 9:19 AM
To: STIC-Biotech/ChemLib
Subject: ser no. 09227854

Please perform a sequence search for the seq id no. 2 of this application.
This is an overdue amendment I acquired. I appreciate if this can be a rush.
thank you,

Sarada Prasad, Ph.D.
Patent Examiner
Art Unit 1646
Room CM1-8B17
Tel: 703-305-1009

DK
XX
PT
PT
Composition containing S100 protein, corresponding nucleic acid or
vector, useful for treating cardiomyopathy and cardiac insufficiency
XX
PS
Claim 35: Page 16-17; 36pp; German.

This invention describes a novel composition for treating primary or secondary cardiomyopathy or cardiac insufficiency contains at least one S100 protein (I) or nucleic acid (II) encoding (I), or their mutants or fragments, or a gene transfer vector containing (II), optionally formulated with auxiliaries and/or carriers. (I) are calcium-binding proteins involved in calcium homeostasis, so their overexpression in cardiac muscle will improve pumping capacity (and overall capacity) of the heart. In cultured myocardial cells they increase the contractility and relaxation rates associated with increased systolic calcium ion release from the sarcoplasmic reticulum (SR) and calcium re-uptake by SR. (I) are used to treat cardiomyopathy (CMP) where inherited or caused by spontaneous mutations and ischemic CMP caused by arteriosclerosis, dilative CMP caused by toxic/infectious disease, cardiac disease caused by pulmonary and/or arterial hypertension, and structural disease caused by rhythm disorders or valve defects, generally any condition associated with reduced contractile force. Unlike calmodulin, which is expressed ubiquitously, (I) show tissue specific expression and treat the underlying defect in the sarcoplasmic reticulum (SR) that causes cardiac disease.

PT Increasing life-span of mammalian haemato-lymphoid cells by transforming stem cells - with construct: contg. cell-specific transcription initiator and gene encoding protein that increases life-span, useful for drug screening and treatment
 PT
 PT
 XX
 PS Example 1; column 33-34; 34pp; English.
 XX
 W17026 is the human MRP14 protein. The transcriptional initiator of the MRPB gene was used in a construct for expressing an open reading frame that increase the lifespan of a mammalian haemato-lymphoid cell, e.g. the mammalian bcl-2 gene, a CFTR (cystic fibrosis transmembrane regulator) gene, the herpes virus thymidine kinase gene or an oncogene.
 CC Haemato-lymphoid cells are especially neutrophils and the construct doubles the lifespan of transgenic cells. Transgenic cells or
 CC transgenic animals produced are used for screening for substances and treatments that prevent or promote cell death. They can also be returned
 CC to the patient to modulate apoptosis, i.e. in the treatment of disorders related to abnormal cell proliferation or death. Typical applications
 CC are treatment of viral diseases, including HIV; cancer and cystic
 CC fibrosis.
 XX
 Sequence: 114 AA;
 SQ

SQ	Sequence	91 AA;	Query Match	70.9%	Score	332;	DB	20;	Length	91;	
			Best Local Similarity	70.3%	Pred.	No.	6.4e-30;		Best Local Similarity	66.3%	
			Matches	64;	Conservative	10;	Mismatches	17;	Matches	61;	
					Indels	0;	Gaps	0;	Indels	0;	
QY	2	TKLEEHLEGVNIFHOVSVRKGHDFTLSKGELQQLTKEANTIKNPKAVIDEFQGL	61	QY	1	MTKLEEHLEGVNIFHOVSVRKGHDFTLSKGELQQLTKEANTIKNPKAVIDEFQGL	60	QY	1	MTKLEEHLEGVNIFHOVSVRKGHDFTLSKGELQQLTKEANTIKNPKAVIDEFQGL	60
Db	1	tkledheginlhqysvrghydkreikqltkelptkntkdqgtidkifqn	60	Db	1	mtkledheginlhqysvrghydkreikqltkelptkntkdqgtidkifqn	60	Db	1	mtkledheginlhqysvrghydkreikqltkelptkntkdqgtidkifqn	60
QY	62	DANQDEQDFQEFISIIVATAKRAHYTHKE	92	QY	61	LDANQDEQDFQEFISIIVATAKRAHYTHKE	92	QY	61	LDANQDEQDFQEFISIIVATAKRAHYTHKE	92
Db	61	dangdeqvsfkefvvlvdvltahdhike	91	Db	61	dangdeqvsfkefvvlvdvltahdhike	91	Db	61	dangdeqvsfkefvvlvdvltahdhike	91
RESULT	6		RESULT	7		RESULT	7		RESULT	7	
ID	W03563	standard; Protein; 92 AA.	ID	Y90764	standard; Protein; 90 AA.	ID	Y90764	standard; Protein; 90 AA.	ID	Y90764	standard; Protein; 90 AA.
XX	W03563;		XX	XX		XX	XX		XX	XX	
DI	01-MAY-1997	(first entry)	DI	01-MAY-1997	(first entry)	DI	01-MAY-1997	(first entry)	DI	01-MAY-1997	(first entry)
XX			XX			XX			XX		
DE	Calcium binding protein CAAFL.		DE	Bovine corneal antigen (B-COAG) acid sequence SEQ ID NO:3.		DE	Bovine corneal antigen (B-COAG) acid sequence SEQ ID NO:3.		DE	Bovine corneal antigen (B-COAG) acid sequence SEQ ID NO:3.	
XX			XX			XX			XX		
KW	Calcium binding protein; bovine; amniotic fluid; S100 protein family; intracellular signal transduction; squamous epithelial cell; neutrophil; macrophage; cancer; cancerous lesion; inflammation; neoplasia; cervix; squamous cell carcinoma; skin; oesophagus; CAAFL; lung; blood disease.		KW	Bovine; EN-RAGE; extracellular novel RAGE binding protein; receptor for advanced glycation endproduct; inflammation; antiinflammatory; immunoglobulin; cell surface molecule; septic shock; systemic lupus erythematosus; inflammatory lupus nephritis; endotoxaemia; autoimmune disorder; inflammatory disorder.		KW	Bovine; EN-RAGE; extracellular novel RAGE binding protein; receptor for advanced glycation endproduct; inflammation; antiinflammatory; immunoglobulin; cell surface molecule; septic shock; systemic lupus erythematosus; inflammatory lupus nephritis; endotoxaemia; autoimmune disorder; inflammatory disorder.		KW	Bovine; EN-RAGE; extracellular novel RAGE binding protein; receptor for advanced glycation endproduct; inflammation; antiinflammatory; immunoglobulin; cell surface molecule; septic shock; systemic lupus erythematosus; inflammatory lupus nephritis; endotoxaemia; autoimmune disorder; inflammatory disorder.	
XX			XX			XX			XX		
OS	Bos taurus.		OS	Bos taurus.		OS	Bos taurus.		OS	Bos taurus.	
XX			XX			XX			XX		
PN	EP731166-A2.		PN	W020020621-A1.		PN	W020020621-A1.		PN	W020020621-A1.	
XX			XX			XX			XX		
PD	11-SEP-1996.		PD	13-APR-2000.		PD	13-APR-2000.		PD	13-APR-2000.	
XX			XX			XX			XX		
PF	04-DEC-1995;	95EP-0119045.	PF	06-OCT-1999;	99WO-US23303.	PF	06-OCT-1999;	99WO-US23303.	PF	06-OCT-1999;	99WO-US23303.
XX			XX			XX			XX		
PR	05-MAR-1995;	95JP-0070468.	PR	05-MAR-1999;	99US-0263312.	PR	05-MAR-1999;	99US-0263312.	PR	05-MAR-1999;	99US-0263312.
XX			XX			XX			XX		
PR	06-MAR-1995;	95JP-0045564.	PR	(UYCO) UNTV COLUMBIA NEW YORK.		PR	(UYCO) UNTV COLUMBIA NEW YORK.		PR	(UYCO) UNTV COLUMBIA NEW YORK.	
XX			XX			XX			XX		
PA	(HITO/) HITOMI J.		PA	Schmidt AM, Stern D;		PA	Schmidt AM, Stern D;		PA	Schmidt AM, Stern D;	
XX			XX			XX			XX		
PT	PT		PT	WPI; 2000-303794/26.		PT	WPI; 2000-303794/26.		PT	WPI; 2000-303794/26.	
XX			XX			XX			XX		
PT	PT		PT	New human EN-RAGE (extracellular novel receptor for advanced glycation end products) peptide, useful for identifying anti-inflammatory compounds that inhibit its interaction with RAGE -		PT	New human EN-RAGE (extracellular novel receptor for advanced glycation end products) peptide, useful for identifying anti-inflammatory compounds that inhibit its interaction with RAGE -		PT	New human EN-RAGE (extracellular novel receptor for advanced glycation end products) peptide, useful for identifying anti-inflammatory compounds that inhibit its interaction with RAGE -	
XX			XX	Claim 2; Page 41; 132pp; English.		XX	Claim 2; Page 41; 132pp; English.		XX	Claim 2; Page 41; 132pp; English.	
PS	PS		PS	New human EN-RAGE (extracellular novel receptor for advanced glycation end products) peptide (P1). The present invention describes an isolated human EN-RAGE peptide binds to RAGE which is a member of the immunoglobulin superfamily of cell-surface molecules. A compound capable of inhibiting the interaction of EN-RAGE with RAGE is useful for the suppression of inflammation resulting from systemic lupus erythematosus, inflammatory nephritis, septic shock, endotoxaemia, or an autoimmune or inflammatory disorder in which the compound is useful for the treatment of EN-RAGE containing inflammatory cells occurs. The compound is also useful for the treatment of systemic lupus erythematosus, inflammatory lupus nephritis in a subject. The human EN-RAGE peptide is useful for identifying compounds that inhibit its interaction with RAGE. The present sequence represents the bovine corneal antigen which shows homology to the human EN-RAGE N-terminal amino acid sequence.		PS	New human EN-RAGE (extracellular novel receptor for advanced glycation end products) peptide (P1). The present invention describes an isolated human EN-RAGE peptide binds to RAGE which is a member of the immunoglobulin superfamily of cell-surface molecules. A compound capable of inhibiting the interaction of EN-RAGE with RAGE is useful for the suppression of inflammation resulting from systemic lupus erythematosus, inflammatory nephritis, septic shock, endotoxaemia, or an autoimmune or inflammatory disorder in which the compound is useful for the treatment of EN-RAGE containing inflammatory cells occurs. The compound is also useful for the treatment of systemic lupus erythematosus, inflammatory lupus nephritis in a subject. The human EN-RAGE peptide is useful for identifying compounds that inhibit its interaction with RAGE. The present sequence represents the bovine corneal antigen which shows homology to the human EN-RAGE N-terminal amino acid sequence.		PS	New human EN-RAGE (extracellular novel receptor for advanced glycation end products) peptide (P1). The present invention describes an isolated human EN-RAGE peptide binds to RAGE which is a member of the immunoglobulin superfamily of cell-surface molecules. A compound capable of inhibiting the interaction of EN-RAGE with RAGE is useful for the suppression of inflammation resulting from systemic lupus erythematosus, inflammatory nephritis, septic shock, endotoxaemia, or an autoimmune or inflammatory disorder in which the compound is useful for the treatment of EN-RAGE containing inflammatory cells occurs. The compound is also useful for the treatment of systemic lupus erythematosus, inflammatory lupus nephritis in a subject. The human EN-RAGE peptide is useful for identifying compounds that inhibit its interaction with RAGE. The present sequence represents the bovine corneal antigen which shows homology to the human EN-RAGE N-terminal amino acid sequence.	
XX			XX			XX			XX		
SQ	Sequence	90 AA;	SQ	Sequence	90 AA;	SQ	Sequence	90 AA;	SQ	Sequence	90 AA;
XX			XX			XX			XX		
Best Local Similarity	66.0%	Score	309;	DB	21;	Length	90;				
Matches	59;	Pred.	No.	2.3e-27;		Mismatches	13;	Indels	0;	Gaps	0;

CC	dilative CMP caused by toxic/infectious disease, cardiac disease caused
CC	by pulmonary and/or arterial hypertension, and structural disease caused
CC	by rhythm disorders or valve defects, generally any condition associated
CC	with reduced contractile force. Unlike calmodulin, which is expressed
CC	ubiquitously, (T) show tissue-specific expression and treat the
CC	underlying defect in the sarcoplasmic reticulum (SR) that causes cardiac
CC	disease.
XX	
SQ	sequence 92 AA;
RESULT	4
W01826	100.0%; Score 468; DB 21; Length 92;
ID	Best Local Similarity 100.0%; Pred. No. 4.4e+45;
Matches	92; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY	1 MTKLEEHLEGGIVNIFQHQSVRKGHFDTLSKCEKLQLTKEANTNIKQDAVIDEIQG 60
Db	1 mtkleehee...givnifqhsrkghfatskqelqkgtlkelantnikqdaividfq 60
61	LDANQBOQDQEFSTLVALKAAYTHRE 92
61	1dangdqeqvdqefisivalalkaahyhtke 92
DE	Component of bioactive metal RNA polypeptide.
XX	
KW	Bioactivity; metal; RNA polypeptide; RNP; modulation; analysis;
KW	angiogenesis; vascular state; mammalian tissue; transfer; cell;
KW	genetic information; selective; alteration; nucleic acid content;
KW	leukocyte; pig; monocyte-CURNP.
OS	SUS scrofa.
OS	
XX	
PN	DE19628895-A1.
XX	
PD	23-JAN-1997.
XX	
PF	17-JUL-1996; 96DE-1028895.
XX	
18-AUG-1995;	95DE-1030500.
17-JUL-1995;	95DE-1025932.
AA	
PA	(FRAU) FRAUNHOFER GES FOERDERUNG ANGEWANDTEN.
PA	
PI	Heilmeyer LMG, Kiesewetter S, Logemann E, Wissler JH;
XX	
DR	WPI; 1997-088586/09.
DR	N-PSDB; T62569.
XX	
PT	Bioactive metal RNA polypeptide - useful for modulating
PT	angiogenesis, etc.
PS	
Claim 1; Page 15; 16pp; German.	
XX	
CC	A novel bioactive metal RNA polypeptide (RNP) has a RNA component
CC	including the sequence T62568 and a polypeptide component having
CC	the sequence W01826, which is encoded by T62569. The RNP, or
CC	anti-RNP immunoglobulins, can be used to modulate and/or analyse
CC	angiogenesis and the vascular state of mammalian tissue, transfer
CC	genetic information in cells and selectively alter the nucleic
CC	acid content of cells.
CC	leukocytes from pig's blood were cultured in medium, and the
CC	supernatant treated with NH4 sulphate at 35, 45 and 90% saturation
CC	to precipitate protein fractions. The residual supernatant was
CC	diluted to 45% NH4 sulphate saturation and concentrated by

PT New human or bovine calcium binding protein and related nucleic acid
 PT - is a marker for inflammation, neoplasia, skin and blood diseases
 XX
 RS Claim 1; Page 24; 36pp; English.

CC This sequence represents the CAAFL calcium-binding protein isolated from
 CC human amniotic fluid. CAAFL belongs to the S100 protein family, which
 CC includes calcyclin, MRP8, and MRP14. Intracellular calcium ion
 CC concentration is one of the key factors for intracellular signal
 CC transduction. The calcium signals are transduced by various
 CC calcium-binding proteins, such as this protein. CAAFL is normally
 CC expressed in squamous epithelial cells, neutrophils and macrophages, but
 CC atypical epithelial cells are negative for CAAFL and overexpression is
 CC observed in several types of cancer cells and neutrophils/macrophages
 CC infiltrating cancerous lesions. Detection of CAAFL (using antibodies in
 CC usual immunoassays) can be used to diagnose (or monitor) inflammation,
 CC neoplasia (particularly squamous cell carcinoma of the skin, oesophagus,
 CC lung and cervix), and skin and blood diseases.

XX SQ Sequence 92 AA:

Query Match 100.0%; Score 468; DB 17; Length 92;
 Best Local Similarity 100.0%; Pred. No. 4.4e-45; Mismatches 0; Indels 0; Gaps 0;
 Matches 92; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MTKLEELLEGIVNIFHQYSVKGHFDTLSKGELKQLTKEANTIKNIKDAVIDEFOG 60
 1 mtkleehlegivnifhqysvkgftlskgelqkltkelantiknikdavidefqg 60

Db 61 LDANQDQEYDFREFISVALKAAYHTHE 92
 61 ldanqdeqvdqefisvalalkaahyhthke 92

Db 61 LDANQDQEYDFREFISVALKAAYHTHE 92
 61 ldanqdeqvdqefisvalalkaahyhthke 92

CC and antagonists can be used for the treatment of a patient requiring a
 CC chemotactic cytokine I and for the treatment of a patient requiring a
 CC inhibition of a chemotactic cytokine I polypeptide, respectively. The
 CC chemotactic cytokine is used to treat tumours, chronic infection,
 CC leukaemia and T-cell mediated autoimmune diseases.

XX SQ Sequence 92 AA:

Query Match 100.0%; Score 468; DB 18; Length 92;
 Best Local Similarity 100.0%; Pred. No. 4.4e-45; Mismatches 0; Indels 0; Gaps 0;
 Matches 92; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MTKLEELLEGIVNIFHQYSVKGHFDTLSKGELKQLTKEANTIKNIKDAVIDEFOG 60
 1 mtkleehlegivnifhqysvkgftlskgelqkltkelantiknikdavidefqg 60

Db 61 LDANQDQEYDFREFISVALKAAYHTHE 92
 61 ldanqdeqvdqefisvalalkaahyhthke 92

Db 61 LDANQDQEYDFREFISVALKAAYHTHE 92
 61 ldanqdeqvdqefisvalalkaahyhthke 92

RESULT 3
 ID B5542
 ID B5542 standard; Protein; 92 AA.

XX
 AC B45542;
 XX
 DT 22-FEB-2001 (first entry)
 XX
 DE Human S100A12 protein.
 XX
 KW S100 protein; human; treatment; cardiomyopathy; cardiac insufficiency;
 KW calcium-binding protein; calcium homeostasis; cardiac muscle;
 KW pumping capacity; myocardial cell; systolic calcium ion release;
 KW sarcoplasmic reticulum; cardiac disease; hypertension; rhythm disorder;
 KW valve defect.
 XX
 OS Homo sapiens.
 XX
 PN DE19915485-H1.
 XX
 PD 19-OCT-2000.
 XX
 PF 07-APR-1999; 99DE-1015485.
 XX
 PR 07-APR-1999; 99DE-1015485.
 XX
 PA (KATU/) KATUS H A.
 PA (REMP/) REMPPIS A.
 XX
 PT Katus Ha, Remppis A;
 XX
 DR WPI; 2000-673510/66.
 DR N PSDB; C81012.

XX
 PR Composition containing S100 protein, corresponding nucleic acid or
 PT vector, useful for treating cardiomyopathy and cardiac insufficiency
 XX
 PS Claim 35; Page 20; 36pp; German.

XX
 CC This invention describes a novel composition for treating primary or
 CC secondary cardiomyopathy or cardiac insufficiency contains at least one
 CC S100 protein (I) or nucleic acid (II) encoding (I), or their mutants or
 CC fragments, or a gene transfer vector containing (II), optionally
 CC formulated with auxiliaries and/or carriers. (I) are calcium-binding
 CC proteins involved in calcium homeostasis, so their overexpression in
 CC cardiac muscle will improve pumping capacity (and overall capacity) of
 CC the heart. In cultured myocardial cells they increase the contraction and
 CC relaxation rates associated with increased systolic calcium ion release and
 CC from the sarcoplasmic reticulum (SR) and calcium re-uptake by SR. (I) are
 CC used to treat cardiomyopathy (CMP) where it is caused by
 CC spontaneous mutations and ischemic CMP caused by arteriosclerosis,

XX
 PR
 XX
 DR
 DR N-PSDB; T85774.

XX
 CC This is a human chemotactic cytokine I polypeptide. The encoding
 CC DNA, along with a vector and a host cell can be used for the
 PT recombinant production of the chemotactic cytokine. Cytokine agonists
 PT
 XX
 WPI; 1997-351075/32.

XX
 PS Claim 12; Pages 48-49; 64pp; English.

Search completed: June 8, 2001, 15:03:57
Job time: 52 sec

R;Prestland, R.B.; Haydock, P.V.; Fleckman, P.; Nirunsukset, W.; Dale, B.A.
 J. Biol. Chem. 267, 23782-23781, 1992

A;Title: Characterization of the human epidermal profilaggrin gene. Genomic organization
 A;Reference number: A45135; MUID:93054736

A;Status: preliminary; not compared with conceptual translation

A;Molecule type: DNA

A;Residues: 1-591 <PRE>

A;Cross-references: GB:L01089; GB:M9067; NID:9190408; PIDN:AAA60177.1; PID:9553621

A;Note: sequence extracted from NCBI Backbone (NCBIP:118773)

C;Genetics:

A;Gene: GDB:FIG

A;Cross References: GDB:119912; OMIM:135940

C;Superfamily: unassigned calmodulin-related proteins; calmodulin repeat homology
 C;Keywords: EF hand; epidermis; polymorphism; tandem repeat

F;49-81/Domain: calmodulin repeat homology <EF2>

Query Match 35.7%; Score 167; DB 1; Length 102;
 Best Local Similarity 40.0%; Pred. No. 2.1e-08;
 Matches 34; Conservative 16; Mismatches 35; Indels 0; Gaps 0;

QY 2 TKGHELEGIVNIFHQYSVRRKGHDTSKKGKQLTKEANTKNIKKAVIDEIPIGL 61

Db 5 TETRCIESILAVIYQKYGKGDGHVTSKTEFLSMNTELAFTKNIKKQDPGVDRMKL 64

QY 62 DANODEQVQEQEFLSVALAIIKAH 86

RESULT 14

QJ1300 calizzarin - rabbit

C;Species: Oryctolagus cuniculus (domestic rabbit) #sequence_revision 10-Sep-1999 #text_change 21-Jul-2000

C;Accession: JQ1300; P0243; B41004

R;Watanabe, M.; Ando, Y.; Tedoroki, H.; Minami, H.; Hidaka, H.

Biochem. Biophys. Res. Commun. 181, 644-649, 1991

A;Title: Molecular cloning and sequencing of a cDNA clone encoding a new calcium binding protein. A;Reference number: JQ1300; MUID:92095968

A;Accession: JQ1300

A;Molecule type: mRNA

A;Residues: 1-102 <WAT>

A;Cross-references: GB:D10586; GB:D90531; NID:9217745; PIDN:BA01443.1; PID:9217746

A;Accession: P0243

A;Residues: 1-102 <WAT>

A;Accession: B41004

A;Molecule type: Protein

A;Residues: 25-49,53-62 <WAT>

A;Experimental source: lung

R;Todoroki, H.; Kobayashi, R.; Watanabe, M.; Minami, H.; Hidaka, H.

J. Biol. Chem. 266, 1868-18673, 1991

A;Title: Purification, characterization, and partial sequence analysis of a newly identified molecule. A;Reference number: A41004; MUID:92011625

A;Accession: B41004

A;Status: preliminary

A;Molecule type: Protein

A;Residues: 25-49,53-62 <TOP>

A;Cross-references: S-100 protein; calmodulin repeat homology

C;Superfamily: S-100 protein; calmodulin binding; EF hand

C;Keywords: calcium binding; EF hand

F;9-43/Domain: calmodulin repeat homology <EF1>

F;52-84/Domain: calmodulin repeat homology <EF2>

Query Match 35.7%; Score 167; DB 1; Length 102;
 Best Local Similarity 40.0%; Pred. No. 2.1e-08;
 Matches 34; Conservative 16; Mismatches 35; Indels 0; Gaps 0;

QY 2 TKGHELEGIVNIFHQYSVRRKGHDTSKKGKQLTKEANTKNIKKAVIDEIPIGL 61

Db 5 TETRCIESILAVIYQKYGKGDGHVTSKTEFLSMNTELAFTKNIKKQDPGVDRMKL 64

QY 62 DANODEQVQEQEFLSVALAIIKAH 86

RESULT 15

S05207 calvasculin - mouse

N;Alternate names: calcium-binding protein mts1; calcium-binding protein pels8; pla

C;Species: Mus musculus (house mouse)

C;Accession: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 20-Jun-2000

R;Ebralidze, A.; Tulchinsky, E.; Grigorian, M.; Afanasyeva, A.; Senin, V.; Revazova, A;Title: Isolation and characterization of a gene specifically expressed in different tissues

A;Reference number: S05207; MUID:89378739

A;Accession: S05207

A;Molecule type: mRNA

A;Residues: 1-101 <EBR>

A;Cross-references: EMBL:X161190; NID:954926; PIDN:CAA34316.1; PID:954927

R;Tulchinsky, E.M.; Grigorian, M.S.; Ebralidze, A.K.; Mishina, N.I.; Lukanidin, E.; Gene 87, 219-223, 1990

A;Title: Structure of gene mts1, transcribed in metastatic mouse tumor cells

A;Reference number: JH0097; MUID:9026313

A;Accession: JH0097

A;Molecule type: DNA

A;Residues: 1-101 <TUT>

A;Cross-references: GB:M36578; GB:M36579

A;Experimental source: liver

R;Tulchinsky, B. submitted to the EMBL Data Library, August 1989

A;Reference number: S07981

A;Accession: S07981

A;Molecule type: DNA

A;Residues: 1-47, VSGSYFNG', 56-57, 'R'DEEAA' <TU2>

A;Cross-references: EMBL:X16094; NID:953249; PIDN:CAA34224.1; PID:953250

R;Jackson-Grusby, L.L.; Sergiel, J.; Linzer, D.I.H. Nucleic Acids Res. 15, 667-6690, 1987

A;Title: A growth-related mRNA in cultured mouse cells encodes a placental calcium binding protein.

A;Reference number: A26803; MUID:87316927

A;Accession: A26803

A;Status: preliminary

A;Molecule type: mRNA

A;Residues: 1-101 <JAC>

A;Cross-references: GB:X05335; NID:950310; PIDN:CAA29282.1; PID:950311

R;Goto, K.; Endo, H.; Fujiyoshi, T.

J. Biochem. 103, 48-53, 1988

A;Title: Cloning of the sequences expressed abundantly in established cell lines: t-cell oncogene

A;Reference number: A41411; MUID:88198109

A;Accession: A41411

A;Status: preliminary

A;Molecule type: mRNA

A;Residues: 1-101 <GOT>

A;Cross-references: GB:D00208; NID:9220569; PIDN:BA00148.1; PID:9220570

R;Tulchinsky, E.; Kramerov, D.; Ford, H.L.; Reshetnyak, E.; Lukandin, E.; Zain, S. Oncogene 8, 79-86, 1993

A;Title: Characterization of a positive regulatory element in the mts1 gene.

A;Reference number: I48674; MUID:9311279

A;Accession: I48674

A;Status: preliminary; translated from GB/EMBL/DBJ

A;Molecule type: DNA

A;Residues: 1-47, 'VSGSYFNG', 48-54 <REB>

A;Cross-references: EMBL:X16094; NID:953249; PIDN:CAA34224.1; PID:953250

C;Comment: Gene mts1 is expressed in metastatic cells.

A;Gene: mts1

A;Introns: 47/3

C;Superfamily: S-100 protein; calmodulin repeat homology

C;Keywords: calcium binding; cancer; EF hand

F;52-84/Domain: calmodulin repeat homology <EF2>

Biochem. Biophys. Acta 790: 164-173, 1984
A;Title: Purification, characterization and ion binding properties of human brain S100b
A;Reference number: A90653; MUID:85023393
A;Contents: annotation; metal ion-binding properties
C;Comment: This protein binds P53, tubulin and many other proteins at physiological concentrations
C;Comment: S-100 is an intracellular protein that binds calcium. It binds zinc more tightly
C;Comment: different affinities exist for both ions on each monomer. Physiological concentrations
C;Comment: binding sites.
C;Comment: This protein is expressed predominantly in brain tissue by astroglial cells.
C;Comment: The homodimer contains disulfide bonds, but the bond pattern has not been determined.
C;Genetics:
A;Gene: GDB:S100B
A;Cross-references: GDB:120360; OMIM:176990
A;Map position: 21q22.3-21q22.3
A;Introns: 46/3
A;Note: the first intron occurs before the initiator codon
C;Complex: homodimer; heterodimer with S-100 protein alpha chain (see PIR:BCHU14)
C;Keywords: S-100 protein; calmodulin repeat homology
C;Keywords: blocked amino end; brain; calcium binding; EF hand; heterodimer; homodimer;
C;Keywords: 1-92;Product: calmodulin repeat homology <EF1>
F;1/Domain: calmodulin repeat homology <EF2>
F;2/Modified site: blocked amino end (Ser) (in mature form) (probably acetylated) #status
F;2/Modified site: blocked amino end (Ser) (in mature form) (probably acetylated) #status predicted
F;62, 64, 66, 68, 73/Binding site: calcium (Ser, Glu, Asp, Lys, Glu, Asp, Glu, Asp, Glu, Glu) #status predicted
Qy 61 LDANQDEQWDQFQEPISLVALKAAH 86
Db 61 LDNDGDBCDFOERMAFVAMVTTACH 86

RESULT 8

A26557
S-100 protein beta chain - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 25-Mar-1988 #sequence_revision 04-Nov-1994 #text_change 13-Aug-1999
C;Accession: A60046; S07357; A26557
R;Maeda, T.; Usui, H.; Araki, K.; Kuwano, R.; Takahashi, Y.; Suzuki, Y.

presenilin Res. Mol. Brain Res. 10, 193-202, 1991

P;Title: Structure and expression of rat S-100 beta subunit gene.
P;Reference number: A60046; MUID:91359841
A;Accession: A60046
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-92 <MAE>
A;Cross-references: GB:S53527
R;Kuwano, R.; Usui, H.; Maeda, T.; Yananari, N.; Ohtsuka, E.; Ikebara, M.; Takahashi, Y.
Nucleic Acids Res. 12, 7455-7465, 1984
A;Title: Molecular cloning and the complete nucleotide sequence of cDNA to mRNA for S-100 protein.
A;Reference number: S07357; MUID:8713748
A;Accession: S07357
A;Molecule type: mRNA
A;Residues: 1-92 <RNU>
A;Cross-references: EMBL:X01090; NID:957174; PID:NCAA25567.1; PID:957175
R;Dunn, R.; Landry, C.; O'Hanlon, D.; Dunn, J.; Allore, R.; Brown, I.; Marks, A.
J. Biol. Chem. 262, 3562-3565, 1987
A;Title: Reduction in S100 protein beta-subunit mRNA in C6 rat glioma cells following transfection.
A;Reference number: A26557; MUID:8713748
A;Accession: A26557
A;Molecule type: mRNA
A;Residues: 6-92 <DNU>
A;Cross-references: GB:ML5705
C;Comment: S-100 protein occurs as alpha-beta heterodimers, alpha-alpha heterodimers, and trimers.
C;Genetics:

Query Match 40.0%; Score 187; DB 2; Length 92;
 Best Local Similarity 38.4%; Pred. No. 3e-10; Matches 33; Conservative 27; Mismatches 26; Indels 0; Gaps 0; C:Keywords: brain; calcium binding; dimer; EF hand; zinc
 F:2-92/Product: S-100 protein beta chain #status predicted <MAT>
 F:6-40/Domain: calmodulin repeat homology <EF1>.

RESULT 9

BCB01B
 S-100 protein beta chain - bovine
 N;Alternative names: neurocalcin delta-binding protein S100-beta
 C;Species: Bos primigenius taurus (cattle)
 C;Accession: J31-MAY-1979 #sequence_revision 14-Nov-1993 #text_change 24-Nov-1999
 C;Accession: A91254; B91110; A90075; S54348; A03077
 R;Isobe, T.; Okuyama, T.
 Eur. J. Biochem. 89, 373-388, 1978
 A;Title: The amino-acid sequence of S-100 protein (PAP-I-b protein) and its relation to
 A;Reference number: A91254; MUID:7904565
 A;Accession: A91254
 A;Molecule type: protein
 A;Residues: 1-91 <ISO>
 A;Experimental source: brain
 A;Note: this sequence has since been revised in reference A91110
 R;Isobe, T.; Okuyama, T.
 Eur. J. Biochem. 116, 79-86, 1981
 A;Title: The amino-acid sequence of the alpha subunit in bovine brain S-100 a protein
 A;Reference number: A91110; MUID:81236562
 A;Accession: B91110
 A;Molecule type: protein
 A;Residues: 1-91 <ISO>
 R;Baudier, J.; Gerard, D.
 Biochemistry 22, 3360-3369, 1983
 A;Title: Ions binding to S100 proteins: structural changes induced by calcium and z
 A;Reference number: A9071; MUID:8400039
 A;Contents: annotation: metal ion-binding properties
 R;Marshak, D.R.; Umekawa, H.; Watterson, D.M.; Hidaka, H.
 Arch. Biochem. Biophys. 240, 777-780, 1985
 A;Title: Structural characterization of the calcium binding protein S100 from adipose
 A;Reference number: A90075; MUID:85278369
 A;Accession: A90075
 A;Molecule type: protein
 A;Residues: 1-91 <MR>
 A;Experimental source: adipose tissue
 R;Okazaki, K.; Obata, N.H.; Inoue, S.; Hidaka, H.
 Biochem. J. 306, 551-555, 1995
 A;Title: S100-beta is a target protein of neurocalcin delta, an abundant isoform in
 A;Reference number: S54343; MUID:95194333
 A;Accession: S543438
 A;Molecule type: protein
 A;Residues: 55-61, 'N', 63-79, 'V' <OKA>
 C;Comment: The S-100 protein is composed of two related polypeptide chains, alpha and
 brain proteins. S-100 is also found in a variety of other tissues.
 C;Comment: S-100 is an intracellular protein that weakly binds calcium. It binds zinc
 ions with different affinities exist for both ions on each monomer. Physiological con-
 cium-binding sites.
 C;Species: S-100 protein; calmodulin repeat homology
 C;Keywords: blocked amino end; brain; calcium binding; EF hand; zinc
 F:5-39/Domain: calmodulin repeat homology <EF1>
 F:48-80/Domain: calmodulin repeat homology <EF2>
 F:1/Modified site: blocked amino end (ser) (probably acetylated) #status experiment

Query Match	41.5%; Score 194; DB 2; Length 95;	1 MTKLEEHLEGIVNTIFHQYSRKGHFTLSKGELKOLIKELANTIKNIKRAVIDEIFGQ 60
Best Local Similarity	45.1%; Score 204; DB 1; Length 95;	1 MTELEFAMGMIDFSSRYSSEGSTQTLTKGELKVLMEKELPGLFQSGKDKDAVDKLLKD 60
Matches	41; Conservative 17; Mismatches 33; Indels 0; Gaps 0;	QY 61 LDANQDQVQFQEFISLSVATAKHAHYHK 91
A; Residues	11-19: 26-38; 94-105, 'X', 107 <MAD>	Db 61 LDANDAQVDFSEFTVFAITSACHYFEK 91
A; Note	the first intron occurs before the initiator codon	QY 1 MTKLEEHLEGIVNTIFHQYSRKGHFTLSKGELKOLIKELANTIKNIKRAVIDEIFGQ 60
C; Complex	heterodimer and higher complexes with calgranulin A (see PIR:BCUHCF)	Db 1 MTELEFAMGMIDFSSRYSSEGSTQTLTKGELKVLMEKELPGLFQSGKDKDAVDKLLKD 60
C; Superfamily	S-100 protein; calmodulin repeat homology	A; Note: In several peptide samples no PTH was detected for 95-His but in one peptide PTH
C; Keywords	blocked amino end; calcium binding; EF hand; heterodimer; inflammation; phos	C; Comment: This protein appears to be expressed only in cells of myeloid origin actively
F; 2-14/Product	calgranulin B #status experimental <MAT>	C; Genetics: Genetics: This protein appears to be expressed only in cells of myeloid origin actively
F; 10-44/Domain	calmodulin repeat homology <EF1>	A; Cross-references: GDB:SL00A9; 60B8AG; CGGB; CFAG; LIAG; MAC387; MIF; MRP14; NIF; P14
F; 48-85/Domain	calmodulin repeat homology <EF1>	A; Map position: 1q21-1q21
F; 13/Binding site	phosphate (Thr) (covalent) #status predicted	A; Introns: 50/3
RESULT	5	A; Note: the first intron occurs before the initiator codon
QY	45.8%; score 214.5; DB 1; Length 114;	C; Species: Note: the first intron occurs before the initiator codon
Best Local Similarity	46.7%; Pred. No. 1.3e-12;	C; Species: Mus musculus (house mouse)
Matches	43; Conservative 22; Mismatches 26; Indels 1; Gaps 1;	C; Date: 02-Jun-1995 #sequence_revision 02-Jun-1995 #text_change 24-Nov-1999
QY	1 MTKLEEHLEGIVNTIFHQYSRKGHFTLSKGELKOLIKELANTIKNIKRAVIDEIFGQ 60	C; Accession: A48015
C; Date	13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 13-Aug-1999	R; Jiang, H.; Shah, S.; Hilt, D.C.
C; Accession	s24146; P0340	J. Biol. Chem. 268, 20502-20511, 1993
Db	5 MSQLERNIEPIINPHQSKVKGDPITLNGERELVRKDQNLKTKKENKNEKVIHME 64	A; Title: Organization, sequence, and expression of the murine S100beta gene. Trans
QY	60 GLDANQDQEVDQFQEFISLSVATAKHAHYHK 91	A; Reference number: A48015; MUID:9338628
Db	65 DLDINADKQSLFEEFIMLMPRLTWASERKME 96	A; Accession: A48015
A; Status	preliminary	A; Status: preliminary
A; Residues	1-92 <JTA>	A; Molecule type: DNA
A; Cross-references	GB:122144; MUID:9404768; PIDN:AAA03075.1; PID:9404769	A; Residues: 1-92 <JTA>
C; Genetics		C; Species: Mus musculus (house mouse)
A; Introns	46/3	A; Introns: 46/3
C; Superfamily	S-100 protein; calmodulin repeat homology	C; Superfamily: S-100 protein; calmodulin repeat homology
C; Keywords	acetylated amino end; calcium binding; EF hand	C; Accession: A48015
F; 2-92/Product	S-100 protein beta chain #status predicted	F; 2-92/Product: S-100 protein beta chain #status predicted <MAT>
F; 6-40/Domain	calmodulin repeat homology <EF1>	F; 6-40/Domain: calmodulin repeat homology <EF1>
F; 9-81/Domain	calmodulin repeat homology <EF1>	F; 9-81/Domain: calmodulin repeat homology <EF1>
F; 2/Modified site	acetylated amino end (Ser) (In mature form) #status predicted	F; 2/Modified site: acetylated amino end (Ser) (In mature form) #status predicted
F; 20-24,27,32/Binding site	calcium (Gly, Glu, Asp, Iys, Glu) #status predicted	F; 20-24,27,32/Binding site: calcium (Gly, Glu, Asp, Asp, Asp, Glu) #status predicted
F; 62,64,66,68,70,73/Binding site	calcium (Asp, Asp, Asp, Asp, Glu, Asp) #status predicted	F; 62,64,66,68,70,73/Binding site: calcium (Asp, Asp, Asp, Asp, Glu, Asp) #status predicted
RESULT	6	A; Cross-references: GB:122144; MUID:9404768; PIDN:AAA03075.1; PID:9404769
QY	40.6%; score 190; DB 2; Length 92;	C; Genetics: Mus musculus (house mouse)
Best Local Similarity	39.5%; Pred. No. 1.6e-10;	A; Introns: 46/3
Matches	34; Conservative 26; Mismatches 26; Indels 0; Gaps 0;	C; Superfamily: S-100 protein; calmodulin repeat homology
QY	1 MTKLEEHLEGIVNTIFHQYSRKGHFTLSKGELKOLIKELANTIKNIKRAVIDEIFGQ 60	C; Accession: A48015
Db	1 MSLEKAMVALIDVFHQYSRKGHFTLSKGELKOLIKELANTIKNIKRAVIDEIFGQ 60	R; Allore, R. J.; Fried, R. C.; O'Hanlon, D.; Neilson, K.M.; Baurnal, R.; Dunn, R. J.; Biol. Chem. 265, 1537-1553, 1990
QY	61 LDANQDQVQFQEFISLSVATAKHAH 86	A; Title: Cloning and expression of the human S100beta gene.
Db	61 LDQEDGQECDFQEFMAVAMVTTACH 86	A; Reference number: A38364; MUID:90668757
RESULT	7	A; Accession: A38364
QY	40.6%; score 190; DB 2; Length 92;	A; Molecule type: DNA
Best Local Similarity	39.5%; Pred. No. 1.6e-10;	A; Residues: 1-92 <ALL>
Matches	34; Conservative 26; Mismatches 26; Indels 0; Gaps 0;	A; Cross-references: GB:J05600; GB:M59486; MUID:9337726; GB:M59487; MUID:9337727; GB:J05600
QY	1 MTKLEEHLEGIVNTIFHQYSRKGHFTLSKGELKOLIKELANTIKNIKRAVIDEIFGQ 60	R; Jensen, R.; Marshak, D.R.; Anderson, C.; Lukas, T.J.; Watterson, D.M.
Db	1 MSLEKAMVALIDVFHQYSRKGHFTLSKGELKOLIKELANTIKNIKRAVIDEIFGQ 60	J. Neurochem. 45, 700-705, 1985
A; Title	Characterization of human brain S100 protein fraction: amino acid sequence	A; Title: Characterization of human brain S100 protein fraction: amino acid sequence
A; Reference number	A92972; MUID:85291729	A; Reference number: A92972; MUID:85291729
A; Molecule type	protein	A; Molecule type: protein
A; Residues	2-92 <JENS>	A; Residues: 2-92 <JENS>
A; Baudier, J.; Glaser, N.; Haglid, K.; Gerard, D.		

C:Keywords: calcium binding; EF hand; monomer; neutrophil; zinc
 F;2-92/Product: S-100 calcium-binding protein A12 #status experimental <MAT>
 F;6-39/Domain: calmodulin repeat homology <EF1>
 F;9-81/Domain: calmodulin repeat homology <EF2>
 F;86-90/Region: zinc binding #status predicted

Query Match 100.0%; Score 468; DB 2; Length 92;
 Best Local Similarity 100.0%; Pred. No. 2e-35; Mismatches 0; Indels 0; Gaps 0;
 Matches 92; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MTKLEEHLEHGGIVNIFHQYSVRKGHDFTLSKGELKQLITKELANTIKNIKDAVIDEIFQ 60
 Db 1 MTKLEEHLEHGGIVNIFHQYSVRKGHDFTLSKGELKQLITKELANTIKNIKDAVIDEIFQ 60
 QY 61 LDANODEQVDFQEFISLVALKAHYHKE 92
 Db 61 LDANODEQVDFQEFISLVALKAHYHKE 92

JLT 2

JLT 406

calgranulin C - pig

C;Species: Sus scrofa domesticus (domestic pig)

C;Accession: A55406
 C;Date: 10-Feb-1995 #sequence_revision 10-Feb-1995 #text_change 23-May-1997

C;Species: Dell'Angelica, E.C.; Schleicher, C.H.; Santome, J.A.

J. Biol. Chem. 269, 28928-28936, 1994

A;Title: Primary structure and binding properties of calgranulin C, a novel S100-like calmodulin-binding protein

A;Reference number: A55406; MUID:95050708

A;Accession: A55406
 A;Status: preliminary

A;Molecule type: protein

A;Residues: 1-91 <PDB>

C;Superfamily: S-100 protein; calmodulin repeat homology

C;Keywords: calcium binding; EF hand

F;48-80/Domain: calmodulin repeat homology <EF2>

JLT 406

JLT 406

calgranulin C - pig

C;Species: Sus scrofa domesticus (domestic pig)

C;Accession: A55406
 C;Date: 10-Feb-1995 #sequence_revision 10-Feb-1995 #text_change 23-May-1997

C;Species: Dell'Angelica, E.C.; Schleicher, C.H.; Santome, J.A.

J. Biol. Chem. 269, 28928-28936, 1994

A;Title: Primary structure and binding properties of calgranulin C, a novel S100-like calmodulin-binding protein

A;Reference number: A55406; MUID:95050708

A;Accession: A55406
 A;Status: preliminary

A;Molecule type: protein

A;Residues: 1-91 <PDB>

C;Superfamily: S-100 protein; calmodulin repeat homology

C;Keywords: calcium binding; EF hand

F;48-80/Domain: calmodulin repeat homology <EF2>

JLT 406

JLT 406

calgranulin C - pig

C;Species: Sus scrofa domesticus (domestic pig)

C;Accession: A55406
 C;Date: 10-Feb-1995 #sequence_revision 10-Feb-1995 #text_change 23-May-1997

C;Species: Dell'Angelica, E.C.; Schleicher, C.H.; Santome, J.A.

J. Biol. Chem. 269, 28928-28936, 1994

A;Title: Primary structure and binding properties of calgranulin C, a novel S100-like calmodulin-binding protein

A;Reference number: A55406; MUID:95050708

A;Accession: A55406
 A;Status: preliminary

A;Molecule type: protein

A;Residues: 1-91 <PDB>

C;Superfamily: S-100 protein; calmodulin repeat homology

C;Keywords: calcium binding; EF hand

F;48-80/Domain: calmodulin repeat homology <EF2>

JLT 406

JLT 406

calgranulin C - pig

C;Species: Sus scrofa domesticus (domestic pig)

C;Accession: A55406
 C;Date: 10-Feb-1995 #sequence_revision 10-Feb-1995 #text_change 23-May-1997

C;Species: Dell'Angelica, E.C.; Schleicher, C.H.; Santome, J.A.

J. Biol. Chem. 269, 28928-28936, 1994

A;Title: Primary structure and binding properties of calgranulin C, a novel S100-like calmodulin-binding protein

A;Reference number: A55406; MUID:95050708

A;Accession: A55406
 A;Status: preliminary

A;Molecule type: protein

JLT 406

JLT 406

calgranulin C - pig

C;Species: Sus scrofa domesticus (domestic pig)

C;Accession: A55406
 C;Date: 10-Feb-1995 #sequence_revision 10-Feb-1995 #text_change 23-May-1997

C;Species: Dell'Angelica, E.C.; Schleicher, C.H.; Santome, J.A.

J. Biol. Chem. 269, 28928-28936, 1994

A;Title: Primary structure and binding properties of calgranulin C, a novel S100-like calmodulin-binding protein

A;Reference number: A55406; MUID:95050708

A;Accession: A55406
 A;Status: preliminary

A;Molecule type: protein

JLT 406

JLT 406

A;Residues: 4-32, 'F', 34-56 <DIA>
 C;Complex: heterodimer and higher complexes with calgranulin A
 C;Superfamily: S-100 protein; calmodulin repeat homology <EF1>
 C;Keywords: blocked amino end; calcium binding; EF hand; heterodimer; inflammation;
 F;6-40/Domain: calmodulin repeat homology <EF2>
 F;50-82/Domain: calmodulin repeat homology <EF2>

Query Match 48.4%; Score 226.5; DB 1; Length 122;
 Best Local Similarity 51.6%; Pred. No. 1.2e-13; Mismatches 47; Indels 1; Gaps 1;
 Matches 47; Conservative 17; Mismatches 26; Indels 1; Gaps 1;
 QY 1 MTKLEEHLEHGGIVNIFHQYSVRKGHDFTLSKGELKQLITKELANTIKNIKDAVIDEIFQ 59
 Db 1 MTKLEEHLEHGGIVNIFHQYSVRKGHDFTLSKGELKQLITKELANTIKNIKDAVIDEIFQ 59
 QY 60 GLDANODEQVDFQEFISLVALKAHYHKE 90
 Db 61 GLDANODEQVDFQEFISLVALKAHYHKE 90

RESULT 4

B31848

calgranulin B [validated] - human

N;Alternate names: calcium-binding protein MRP-14; cystic fibrosis-associated antigen (MRP-14); MRP-related 14K protein; S-100 calcium-binding protein A9 (S100A9)

C;Species: Homo sapiens (man)

C;Accession: B31848; S00667; A33819; B60911; B61082; D54327

C;Cross-references: EMBL:X06233; PID:934770; PID:CA29579.1; PID:934771

R;Lagasse, E.; Clerc, R.G.; Mol. Cell. Biol. 8, 2402-2410, 1988

A;Title: Cloning and expression of two human genes encoding calcium-binding protein A

A;Reference number: A93102; MUID:88302148

A;Accession: B31848
 A;Molecule type: DNA

A;Residues: 1-114 <LAG>

A;Cross-references: EMBL:X06233; PID:934770; PID:CA29579.1; PID:934771

A;Note: parts of this sequence were confirmed by protein sequencing

R;Murao, S.; Collart, F.R.; Huberman, E.

J. Biol. Chem. 264, 8356-8360, 1989

A;Title: A protein containing the cystic fibrosis antigen is an inhibitor of protein

A;Reference number: A33819; MUID:8925276

A;Accession: A33819
 A;Molecule type: mRNA

A;Residues: 1-114 <MUR>

A;Cross-references: GB:M26311; PID:9862619; PID:AAA68480.1; PID:9516621

A;Note: part of this sequence was confirmed by protein sequencing; the amino end of

R;Andersson, K.B.; Sletten, K.; Berntzen, H.B.; Dale, I.; Brandtzæg, P.; Jeulin, E

Scand. J. Immunol. 28, 241-245, 1988

A;Title: The leucocyte LI protein: identity with the cystic fibrosis antigen and the

C;Date: 30-Sep-1993 #sequence_revision 23-May-1997 #text_change 23-May-1997

C;Accession: B22309; A42028

C;Cross-references: EMBL:X06233; PID:934770; PID:CA29579.1; PID:934771

A;Title: 30-Sep-1993 #sequence_revision 23-May-1997 #text_change 23-May-1997

A;Reference number: A22309

A;Accession: B22309
 A;Status: preliminary

A;Molecule type: protein

A;Residues: 1-122 <PAN>

R;Dignoux, A.C.; Stasla, M.J.; Garin, J.; Gagnon, J.; Vignais, P.V.

Biochemistry 31, 5828-5905, 1992

A;Title: The 21-kilodalton protein, a substrate of protein kinase C, in bovine neutrophil

A;Reference number: A42628; MUID:92304974

A;Accession: A42628
 A;Molecule type: protein

A;Residues: 1-122 <PAN>

R;Tobe, T.; Murakami, K.; Tomita, M.; Nozawa, R.

Chem. Pharm. Bull. 37, 1576-1580, 1989

A;Title: Amino acid sequences of 60B8 antigens induced in HL-60 cells by 1,25-dihydro

A;Reference number: A61082; MUID:89376638

A;Accession: B61082
 A;Molecule type: protein

A;Residues: 5-77; 80-90, 'A', 92-114 <TOB>

A;Note: the blocked amino end of the mature protein is identified as 2-Thr; residue

R;Madsen, P.; Rasmussen, H.H.; Leffers, H.; Honore, B.; Dejaard, K.; Olsen, E.; Ki

E; Invest. Dermatol. 97, 701-712, 1991

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OM protein - protein search, using sw model.

Run on: June 8, 2001, 15:03:05 : Search time 14.33 Seconds
(without alignments)

Title: US-09-227-854-2
Perfect score: 463
Scoring table: BLOSUM62
Sequence: 1 MTKLEENLEGTVNIFHQYSV.....ERISIVVIAALKAHYHTRKE 92
Searched: 198801 seqs, 68722935 residues

Post-processing: Minimum Match 0%
Maximum Match 100%
Minimum DB seq length: 0
Maximum DB seq length: 200000000

Database : PIR:67:*

1: pir1:*

2: pir2:*

3: pir3:*

4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES					
Result No.	Score	Query Match Length	DB ID	Description	
1	468	100.0	92	JC4712	S-100 calcium-bind
2	332	70.9	91	2 A55406	Calgranulin C - pi
3	226.5	48.4	122	1 A42628	Calgranulin B - bo
4	214.9	45.8	114	1 B31848	Calgranulin B [val
5	194	41.5	95	2 S24146	S-100 protein P -
6	190	40.6	92	2 A48015	S-100 protein beta
7	189	40.4	92	1 BCHU18	S-100 protein
8	187	40.0	92	2 A26557	S-100 protein beta
9	185	39.5	91	1 BCB010	S-100 protein beta
10	180.5	38.6	113	1 JN0686	Calgranulin B - ra
11	178.5	38.1	113	1 S68242	Calgranulin B - mo
12	177.5	37.9	95	1 S35985	S-100 protein alpha
13	168	35.9	591	2 A45135	proflaggrin - hum
14	167	35.7	102	1 JQ1300	Calgizzarin - rabb
15	163.5	34.9	101	2 S06207	Calvasculin - mouse
16	162.5	34.7	94	1 BCB010	S-100 protein alpha
17	161.5	34.5	94	1 BCHU18	S-100 protein alpha
18	160.5	34.3	101	2 S01759	Calvasculin - rat
19	158	33.8	93	1 BCHU18	Calgranulin A [val
20	157.5	33.7	101	2 A48219	Calvasculin - huma
21	157	33.5	105	1 I37080	Calizzarin - huma
22	156	33.3	306	1 A48118	major epidermal ce
23	154	32.9	89	1 I56163	Calgranulin A - mo
24	153.5	32.8	98	2 A41988	S-100 calcium-bind
25	152.5	32.6	100	2 A53217	placental calcium-
26	149	31.8	89	1 JN0685	Calgranulin A - ra
27	147.5	31.5	90	1 BCHU18	Calcyclin - human
28	147	31.5	97	2 A30129	S-100 protein, lun
29	146	31.2	110	2 B48219	S-100 calcium-bind

30	144.5	30.9	217	2	JE0330
31	142.5	30.4	89	1	A54330
32	142.5	30.4	90	1	S27011
33	139.5	29.8	90	2	B28363
33	139	29.7	99	2	S20342
34	137.5	29.4	98	2	JC5064
35	136	29.1	65	1	A41004
36	127.5	27.2	95	1	LUPG1
37	127.5	27.2	97	1	JH0663
38	127.5	27.2	97	2	JC1139
39	127.5	27.2	97	2	B28489
40	127.5	27.2	97	2	A2849
41	126.5	27.0	97	2	A2849
42	124	26.5	79	1	KLB01
43	123.5	26.4	95	2	A31373
44	123.5	26.2	79	1	JN0245
45	121.5	26.0	79	1	JN0246

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RX	RX	MEDLINE=85291729; PubMed=4031854;
RA	RA	Jensen R., Marsak D.R., Anderson C., Lukas T.J., Watterson D.M.;
RT	RT	"Characterization of human brain S100 protein fraction: amino acid sequence of S100 beta.";
RL	RL	J. Neurochem. 45:700-705(1985);
RN	RN	[3] [4]
RP	RP	METAL ION-BINDING PROPERTIES.
RX	RX	MEDLINE=85023193; PubMed=648634;
RA	RA	Baudier J., Glasser N., Haglid K., Gerard D.;
RT	RT	"Purification, characterization and ion binding properties of human brain S100 protein.";
RL	RL	Biochim. Biophys. Acta 790:164-173(1984).
RN	RN	STRUCTURE BY NMR.
RP	RP	STRUCTURE BY NMR. MEDLINE=8179337; PubMed=9519411;
RA	RA	Smith S.P., Shaw G.S.;
RT	RT	"A novel calcium-sensitive switch revealed by the structure of human S100B in the calcium-bound form.";
RL	RL	Structure 6:211-221(1998).
-I-	-I-	FUNCTION: WEAKLY BINDS CALCIUM BUT BINDS ZINC VERY TIGHTLY. DISTINCT BINDING SITES WITH DIFFERENT AFFINITIES EXIST FOR BOTH IONS ON EACH MONOMER. PHYSIOLOGICAL CONCENTRATIONS OF POTASSIUM ION ANTAGONIZE THE BINDING OF BOTH DIVALENT CATIONS, ESPECIALLY AFFECTING HIGH-AFFINITY CALCIUM-BINDING SITES.
-I-	-I-	SUBUNIT: DIMER OF EITHER TWO ALPHA CHAINS, OR TWO BETA CHAINS, OR ONE ALPHA AND ONE BETA CHAIN.
-I-	-I-	SUBCELLULAR LOCATION: CYTOPLASMIC.
-I-	-I-	TISSUE SPECIFICITY: ALTHOUGH PREDOMINANT AMONG THE WATER-SOLUBLE BRAIN PROTEINS, S-100 IS ALSO FOUND IN A VARIETY OF OTHER TISSUES.
-I-	-I-	MISCELLANEOUS: IN ADDITION TO METAL-ION BINDING, THIS PROTEIN IS INVOLVED WITH THE REGULATION OF PROTEIN PHOSPHORYLATION IN BRAIN TISSUE.
CC	CC	-I- SIMILARITY: BELONGS TO THE S-100 FAMILY.
CC	CC	-I- SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
CC	CC	This SWISS-PROF entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation at the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/ or send an email to license@isb-sib.ch).
CC	CC	EMBL: M59488; AAA60367.1; EMBL: M59487; AAA60367.1; JOINED. DR: PIR: A03076; BOMHUB. DR: PIR: A38364; A38364. DR: PDB: 1UWO; 10-JUN-98. DR: PROSITE: PS00018; EF_HAND_1. DR: PROSITE: PS00313; S100_CCBP_1. DR: INT_PRO: IPR001751; IPR002048; IPR0023; S100_1. DR: Pfam: PF00036; efhand_1. DR: Pfam: PF00036; efhand_1. DR: MIM: 176990; -.
DR	DR	InterPro: IPR001751; IPR002048; IPR0023; S100_1. PIR: A38364; A38364. PDB: 1UWO; 10-JUN-98.
DR	DR	EMBL: M59488; AAA60367.1; JOINED.
DR	DR	DR: PIR: A03076; BOMHUB. DR: PIR: A38364; A38364. DR: PDB: 1UWO; 10-JUN-98.
DR	DR	PROSITE: PS00018; EF_HAND_1. PROSITE: PS00313; S100_CCBP_1. DR: INT_PET
KW	KW	Calcium-binding; Zinc; Metal-binding; 3D-structure.
FT	FT	INIT_MET 0
FT	FT	MOD_RES 1 1
FT	FT	BLOCKED.
CA_BIND	CA_BIND	1B 31 SITE I (LOW AFFINITY).
CA_BIND	CA_BIND	61 72 SITE II (HIGH AFFINITY).
SEQUENCE	SEQUENCE	91 AA: 10582 MW: 23780.888EA7956 CQE64;
QY	QY	62 DANQEOVDFOFISLVALIKAH 86
Query Match	39.3%	Score 184; DB 1; length 91;
Best Local Similarity	38.8%	Pred. No. 4.7e-11;
Matches	33;	Conservative 26; Mismatches 26; Indels 0; Gaps 0;
OY	2	TKLEELLEGTYNIEHOYSVKGHRGFDTLSKQELKQLTKEANTIKDQAVIPIFOG 61
Db	1	SELEKAMVALIVDEHOYSGREGDKHLKLSKELKLINNEELSHFLEIKEQEVQDVMTL 60
QY	62	DANQEOVDFOFISLVALIKAH 86
- : : : : : :	- : : : : : :	- : : : : : :

RT "Spectral studies" on the cadmium-ion-binding properties of bovine
 RT brain S-100b protein. ";
 RL Biochem. J. 276:13-18(1991).
 RN [6]
 RP STRUCTURE BY NMR.
 RX MEDLINE-9639693; PubMed-8805590;
 RA Kirby P.M., van Elpidi L.J., Roberts G.C.K.;
 RT "The solution structure of the bovine S100 protein dimer in the
 calcium-free state.;"
 RL Structure 4:1041-1052(1996).
 CC -I- FUNCTION: WEAKLY BINDS CALCIUM BUT BINDS ZINC VERY TIGHTLY-
 CC DISTINCT BINDING SITES WITH DIFFERENT AFFINITIES EXIST FOR BOTH
 CC IONS ON EACH MONOMER. PHYSIOLOGICAL CONCENTRATIONS OF ZINC
 CC ANTAGONIZE THE BINDING OF BOTH DIVALENT CATIONS, ESPECIALLY
 CC AFFECTING HIGH-AFFINITY CALCIUM-BINDING SITES.
 CC -I- SUBUNIT: DIMER OF EITHER TWO ALPHA CHAINS, OR TWO BETA CHAINS, OR
 CC ONE ALPHA AND ONE BETA CHAIN.
 CC -I- SUBCELLULAR LOCATION: CYTOPLASMIC.
 CC -I- TISSUE SPECIFICITY: ALTHOUGH PREDOMINANT AMONG THE WATER-SOLUBLE
 CC BRAIN PROTEINS, S-100 IS ALSO FOUND IN A VARIETY OF OTHER TISSUES.
 CC (BY SIMILARITY).
 CC -I- SIMILARITY: BELONGS TO THE S-100 FAMILY.
 CC -I- SIMILARITY: BELONGS TO THE S-100 FAMILY.
 CC -I- SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
 DR PDB; 1C9P; 12-MAR-97.
 DR PDB; 1M9O; 18-NOV-98.
 DR InterPro; IPR01751; .
 DR InterPro; IPR002048; .
 DR Pfam; PF01023; S100; 1.
 DR Pfam; PF00036; efnand; 1.
 DR PROSITE; PS00018; EF_HAND; 1.
 DR PROSITE; PS00303; S100_CABP; 1.
 KW Calcium-binding; Zinc; Metal-binding; Acetylation; 3D-structure.
 FT MOD_RES 1; 1.
 FT CA_BIND 18 31 SITE I (LOW AFFINITY).
 FT CA_BIND 61 72 SITE II (HIGH AFFINITY).
 SQ SEQUENCE 91 AA; 10537 MM; 386201933DE6B93A CRC64;

RESULT 12
 S10B_MOUSE 39.5%; Score 185; DB 1; Length 91;
 ID S10B_MOUSE STANDARD; PRT; 91 AA.
 AC P50114;
 DR 01-OCT-1996 (Rel. 34, Created)
 DR 01-OCT-1996 (Rel. 34, Last sequence update)
 DR 01-OCT-2000 (Rel. 40, Last annotation update)
 DE S-100 PROTEIN, BETA CHAIN.
 GN S10B.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathii; Muridae; Murinae; Mus.
 RN [1] NCBI_TaxID-10090;
 RP SEQUENCE FROM N.A.
 RC STRAIN="BALB/C";
 RX MEDLINE-9338628; PubMed-8376406;
 RA Jiang H., Shah S., Hilt D.C.;
 RT "Organization, sequence, and expression of the murine S100 beta gene."
 RT "Transcriptional regulation by cell type-specific cis-acting
 regulatory elements;"
 RL J. Biol. Chem. 268:20502-20511(1993).
 RL

RESULT 13
 S10B_HUMAN 39.5%; Score 185; DB 1; Length 91;
 ID S10B_HUMAN STANDARD; PRT; 91 AA.
 AC P04271;
 DR 20-MAR-1987 (Rel. 04, Created)
 DR 20-MAR-1987 (Rel. 04, Last sequence update)
 DR 01-OCT-2000 (Rel. 40, Last annotation update)
 DE S-100 PROTEIN, BETA CHAIN.
 GN S10B.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarhini; Homidae; Homo.
 RN [1] NCBI_TaxID-9606;
 RP SEQUENCE FROM N.A.
 RC STRAIN="BALB/C";
 RX MEDLINE-9338627; PubMed-2394738;
 RA Allore R.J., Friend W.C., O'Hanlon D., Neilson K.M., Baurnal R.,
 RA Dunn R.J., Maris A.;
 RT "Cloning and expression of the human S100 beta gene."
 RL J. Biol. Chem. 265:15537-15543(1990).
 RN [2] SEQUENCE.

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CC

DR EMBL; X65614; CAA45566.; -

DR PIR; S24146; S24146.

DR HSSP; P02638; ICFP.

DR MIM; 600614; -

DR InterPro; IPR001751; -

DR InterPro; IPR002048; -

DR InterPro; IPR002048; -

DR Pfam; PF01023; S_100; 1.

DR Pfam; PF00036; erhard; 1.

DR PROSITE; PS00018; EF HAND; FALSE_NEG.

DR PROSITE; PS00033; S100_CABP; 1.

KW Calcium-binding; Placenta.

FT CA_BIND 19 32 SITE I (LOW AFFINITY).

FT CA_BIND 62 73 SITE II (HIGH AFFINITY).

FT CONFLICT 32 32 E -> T (IN REF. 2).

FT CONFLICT 44 44 F -> E (IN REF. 2).

FT SEQUENCE 95 AA; 10400 MW; 786563F3EACCG6C1 CRC64;

Query Match 41; Score 194; DB 1; Length 95;
 Best Local Similarity 45.1%; Pred. No. 5.7e12; Mismatches 33; Indels 0; Gaps 0;
 Matches 41; Conservative 17; Mismatches 33; Indels 0; Gaps 0;

QY 1 MTKLEEHLEGIVNFHQISVRKGHDFTLSKGELKQLTKELEANTNIKNIKDAVIDETFQG 60

Db 1 MTELTPAMGKIDDFSRVSGSEGSTOTLKGELKQLTKELEANTNIKNIKDAVIDETFQG 60

QY 61 LDANQDEQVDFQEFISLVALTALKAAHYHTR 91

Db 61 LDANGDAQVDFEFIVFVAAITSACHKVFK 91

RESULT 10

ID S10L_ICTP0 STANDARD; PRT; 92 AA.

AC 091051; -

DT 01-NOV-1997 (Rel. 35, Created)
 01-NOV-1997 (Rel. 35, Last sequence update)

DT 01-OCT-2000 (Rel. 40, Last annotation update)

DE ICTACALCIN.

OS Ictalurus punctatus (Channel catfish).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopercaria; Teleostei; Buteleostei; Ostariophysi; Ostei; Ictaluridae; Ictalurus.

NCBI_TAXID=7998;

AN [1] SEQUENCE FROM N.A.

RP TISSUE=olfactory epithelium;

RC Ictalurus punctatus (Channel catfish).

RX MEDLINE-9703833; PubMed-8889397;

RA Porta A.R., Bettini E., Bulakova O.I., Baker H., Danho W., Margolis F.L.;

RA Margolis F.L.;

RT "Molecular cloning of ictacalcin: a novel calcium-binding protein from the channel catfish, *Ictalurus punctatus*.";

RT Brain Res. Mol. Brain Res. 41:81-89(1996).

RL "The amino-acid sequence of S-100 protein (PAP I-b protein) and its relation to the calcium-binding proteins.";

CC - FUNCTION: PLAYS AN IMPORTANT ROLE IN CATFISH CALCIUM HOMEOSTASIS.

CC - TISSUE SPECIFICITY: ABUNDANT IN EPITHELIAL CELLS OF OLFACTORY ROSETTE, BARBEL, SKIN AND GILL BUT NOT BRAIN OR MUSCLE.

CC - SIMILARITY: BELONGS TO THE S-100 FAMILY.

CC - SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.

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DR EMBL; U33273; AAB52610; 1; -

DR HSSP; P30801; ICFP.

DR InterPro; IPR001751; -

DR InterPro; IPR002048; -

DR Pfam; PF01023; S_100; 1.

DR Pfam; PF00036; erhard; 1.

DR PROSITE; PS00033; S100_CABP; 1.

KW Calcium-binding.

FT CA_BIND 19 32 SITE I (LOW AFFINITY) (POSSIBLY).

FT CA_BIND 62 73 SITE II (HIGH AFFINITY) (POSSIBLY).

FT SEQUENCE 92 AA; 1021 MW; DBFE78687F921C58 CRC64;

Query Match 37; Score 188; DB 1; Length 92;
 Best Local Similarity 46.8%; Pred. No. 2e-11; Mismatches 24; Indels 0; Gaps 0;
 Matches 37; Conservative 18; Mismatches 24; Indels 0; Gaps 0;

QY 1 MTKLEEHLEGIVNFHQISVRKGHDFTLSKGELKQLTKELEANTNIKNIKDAVIDETFQG 60

Db 1 MSDLQKGMLLSTFHKYSGKEGDKCILTKELGKAFGNCSDQATLKDIFKD 60

QY 61 LDANQDEQVDFQEFISLVA 79

Db 61 LDNNADGIVDFQEFATWV 79

RESULT 11

ID S10B_BOVIN STANDARD; PRT; 91 AA.

AC 092038; -

DT 21-JUL-1986 (Rel. 01, Created)
 21-JUL-1986 (Rel. 01, Last sequence update)

DT 01-OCT-2000 (Rel. 40, Last annotation update)

DE S-100 PROTEIN, BETA CHAIN.

GN S100B.

OS Bos taurus (Bovine).

OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovidae; Bovinae; Bos; NCBI_TAXID=9913;

RN [1] SEQUENCE.

RP MEDLINE-7904265; PubMed-710399;

RA Isobe T., Okuyama T.,

RT "The amino-acid sequence of S-100 protein (PAP I-b protein) and its relation to the calcium-binding proteins.";

RL Eur. J. Biochem. 89:379-388(1978).

RN [2] REVISIONS TO 1-4.

RP MEDLINE-81230562; PubMed-7250124;

RA Isobe T., Okuyama T.,

RT "The amino-acid sequence of the alpha subunit in bovine brain S-100a protein";

RT "The amino-acid sequence of the alpha subunit in bovine brain S-100a protein.";

RL Eur. J. Biochem. 116:79-86(1981).

RN [3] SEQUENCE.

RP MEDLINE-85278169; PubMed-4026304;

RA Marchhak D.R., Umezawa H., Watterton D.M., Hidaka H.;

RT "Structural characterization of the calcium binding protein S100 from adipose tissue.";

RT Arch. Biochem. Biophys. 240:777-780(1985).

RN [4] METAL ION-BINDING PROPERTIES.

RP MEDLINE-84000339; PubMed-6615778;

RA Baudier J., Gerard D.;

RT "Ions binding to S100 proteins: structural changes induced by calcium and zinc on S100a and S100b proteins.";

RL Biochimica et Biophysica Acta 22:3360-3369(1983).

RN [5] CADMIUM-BINDING STUDIES.

RP MEDLINE-91248136; PubMed-2039467;

RA Donato H. Jr., Mani R.S., Kay C.M.,

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DR EMBL; AF091849; AAC61771.1; -

DR EMBL; D17404; BAA02271.1; -

DR InterPro; IPR001751; -

DR InterPro; IPR002048; -

DR InterPro; IPR003395; -

DR Pfam; PF01023; S-100; 1.

DR Pfam; PF00036; efhand; 1.

DR PRINTS; PRO0334; KININOGEN.

DR PROSITE; PS00018; EF HAND; 1.

DR PROSITE; PS00303; S100CAPP; 1.

KW Calcium-binding; Repeat.

FT NON_TER 1 1 SITE I (LOW AFFINITY) (POTENTIAL).

FT CA_BIND 9 22 SITE II (HIGH AFFINITY) (POTENTIAL).

FT DOMAIN 53 64 2 X 8 AA TANDEM REPEATS OF G-H-G-H.

FT G-H-S-H.

FT REPEAT 103 110 1.

FT REPEAT 111 118 2.

SQ 118 AA; 13292 MW; 7496118E21AD5C41 CRC64;

RESULT 9

S100_HUMAN STANDARD; PRT; 95 AA.

AC P25815; -

DT 01-MAY-1992 (Rel. 22, Created)

DT 01-OCT-1992 (Rel. 24, Last sequence update)

DT 01-OCT-2000 (Rel. 40, Last annotation update)

DE S-100P PROTEIN.

GN S100P OR S100E.

OS Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

OX NCBI_TAXID=9606;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Placenta;

RX MEDLINE=9239442; PubMed=1633809;

RA Becker T., Gecke V., Kube E., Weber K.;

RT "S100P, a novel Ca(++)-binding protein from human placenta. cDNA cloning, recombinant protein expression and Ca2+ binding properties." Eur. J. Biochem. 207:541-547(1992).

RL [2]

RN [2]

RP SEQUENCE OF 1-91.

RC TISSUE=Placenta;

RX MEDLINE=9217935; PubMed=1540168;

RA Emoto Y., Kobayashi R., Akatsuka H., Hidaka H.;

RT "Purification and characterization of a new member of the S-100 protein family from human placenta." Blochem. Biophys. Res. Commun. 182:1246-1253(1992).

RL -1- MISCELLANEOUS: THIS PROTEIN BINDS TWO CALCIUM IONS.

CC -1- SIMILARITY: BELONGS TO THE S-100 FAMILY.

CC -1- SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.

CC

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Db 61 DLDNNDKLSFEEFIMLVARLTVASHEEMH 91
 CC
 RESULT 6
 ID S109_HUMAN STANDARD; PRT: 114 AA.
 AC P06702;
 DT 01-JAN-1988 (Rel. 06, created)
 DT 01-JAN-1988 (Rel. 06, last sequence update)
 DT 01-OCT-2000 (Rel. 40, last annotation update)
 DE CALGRANULIN B (MIGRATION INHIBITORY FACTOR RELATED PROTEIN 14)
 DE (MRP-14) (P14) (LEUKOCYTE LI COMPLEX HEAVY CHAIN) (S100 CALCIUM-
 DE BINDING PROTEIN A9)
 GN S100B OR MRP14 OR CAGB.
 OS Homo sapiens (Human).
 OC Eukaryota; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 NCBI_TAXID=9506;
 RN [1]
 PP SEQUENCE FROM N.A. PUBMED=3313057;
 MEDLINE=88039099; PDB=1C9P;
 ODINK K., CERLETTI N., BRUGGEN J., CLERC R.G., TARCAY L., ZWALDIO G.,
 GERRIADS G., SCHLEIGEL R., SORG C.;
 "Two calcium-binding proteins in infiltrate macrophages of rheumatoid
 arthritis";
 RL Nature 330:80-82(1987).
 RN [2]
 PP SEQUENCE FROM N.A. PUBMED=3405210;
 MEDLINE=88032148; PDB=1C9P;
 RA Lagasse E., Clerc R.G.;
 "Cloning and expression of two human genes encoding calcium-binding
 proteins that are regulated during myeloid differentiation.";
 RT Mol. Cell. Biol. 8:2402-2410(1988).
 RL
 RN [3]
 PP SEQUENCE FROM N.A. PUBMED=2656677;
 MEDLINE=8925256; PDB=1C9P;
 RA MURGO S., COLLART F.R., HUBERMAN E.;
 "A protein containing the cystic fibrosis antigen is an inhibitor of
 protein kinases.":
 RL J. Biol. Chem. 264:8336-8360(1989).
 RN [4]
 PP SEQUENCE FROM N.A.
 RA WANG M., XU X., CAI Y., XU H., HAN Y., XU Z., WU M.;
 "Human gene for migration inhibitory factor-related protein 14
 (MRP14), variant allele";
 RL Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
 RN [5]
 PP SEQUENCE OF 84-114, AND PHOSPHORYLATION.
 MEDLINE=90044075; PUBMED=2478889;
 R. Edgeworth J., Freemont P., Hogg N.;
 "Ionomycin-regulated phosphorylation of the myeloid calcium-binding
 protein p14.":
 RL Nature 342:189-192(1990).
 RN [6]
 PP SEQUENCE OF 11-19; 26-37 AND 94-107.
 RC TISSUE=Keratinocytes;
 RX MEDLINE=93162043; Pubmed=1286667;
 RA Rasmussen H.H., van Damme J., Puype M., Geeser B., Celis J.E.,
 Vandekerchove J.;
 RT Microsequences of 145 proteins recorded in the two-dimensional gel
 protein database of normal human epidermal keratinocytes.";
 RL Electrophoresis 13:960-969(1992).
 CC 1- FUNCTION: EXPRESSED BY MACROPHAGES IN ACUTELY INFLAMMED TISSUES
 AND IN CHRONIC INFLAMMATIONS. SEEM TO BE AN INHIBITOR OF PROTEIN
 KINASES. ALSO EXPRESSED IN EPITHELIAL CELLS CONSTITUTIVELY OR
 INDUCED DURING DERMATOSES. MAY INTERACT WITH COMPONENTS OF THE
 INTERMEDIATE FILAMENTS IN MONOCYTES AND EPITHELIAL CELLS.
 CC -1- MISCELLANEOUS: HAS BEEN SHOWN TO BIND CALCIUM.
 CC -1- SIMILARITY: BELONGS TO THE S-100 FAMILY.
 CC -1- SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
 CC
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 or send an email to license@isb-sib.ch).
 CC
 CC
 DR EMBL: X06233; CA29579_1;
 DR EMBL: M21064; AAA36326_1;
 DR EMBL: M26311; AAQ68480_1;
 DR EMBL: A237581; AAF62336_1;
 DR EMBL: A12029; CA01002_1;
 DR EMBL: A12032; CA01004_1;
 DR PIR: B31848; B31848.
 DR PIR: A33819; A33819.
 DR HSSP: P02638; ICFP.
 DR Aarhus/Ghent-2DPAGE; 5007; IEF.
 DR Aarhus/Ghent-2DPAGE; 6010; IEF.
 DR Aarhus/Ghent-2DPAGE; 6017; IEF.
 DR Aarhus/Ghent-2DPAGE; 7013; IEF.
 DR MM; 12886;
 DR InterPro; IPR00151;
 DR InterPro; IPR002048;
 DR Pfam; PF01023; S_100; 1;
 DR Pfam; PF00036; eif4a; 1;
 DR PROSITE; PS00018; EF_HAND; 1.
 DR PROSITE; PS00303; S100_CABP; 1.
 DR Calcium-binding; Macrophage; Phosphorylation.
 FT SITE I (LOW AFFINITY) (POTENTIAL).
 FT CA_BIND 23 36 SITE II (HIGH AFFINITY) (POTENTIAL).
 FT MSQLERINETIINFQPSVSKLGHPTDINQGQFLKVLVRKDNFLKRNKNEKVIHME 64
 FT MOD_RES 113 113 PHOSPHORYLATION.
 SQ SEQUENCE 114 AA; 13342 MN; C3BE19729E14C078 CRC64;
 DB 65 DLDNNDKLSFEEFIMLVARLTVASHEEMH 96
 CC
 RESULT 7
 ID M126_CHICK
 ID M126_CHICK STANDARD; PRT: 119 AA.
 AC P0318;
 DT 01-DEC-1992 (Rel. 24, created)
 DT 01-DEC-1992 (Rel. 24, last sequence update)
 DT 01-OCT-2000 (Rel. 40, last annotation update)
 DE PROTEIN MRP-126
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 NCBI_TAXID=9031;
 RN [1]
 PP SEQUENCE FROM N.A.
 RC STRAIN=WHITE LEGHORN; TISSUE=Bone marrow;
 RX MEDLINE=92195690; Pubmed=1549365;
 RA Nakano T., Graf T.;
 RT "Identification of genes differentially expressed in two types of
 v-myc-transformed avian myelomonocytic cells.";
 RT Oncogene 7:527-534(1992).
 RL -1- TISSUE SPECIFICITY: EXPRESSED IN V-MYB-TRANSFORMED MYELOMONOCYTIC
 CELLS.
 CC -1- SIMILARITY: BELONGS TO THE S-100 FAMILY.
 CC -1- SIMILARITY: CONTAINS 2 EF-HAND CALCIUM-BINDING DOMAINS.
 CC
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DR HSSP; P02638; 1MHO.
 DR INTERPRO; IPR010751; -.
 DR INTERPRO; IPR003048; -.
 DR PFAM; PF00036; ephand; 1.
 DR PROSTME; PS00303; S100 CABP; 1.
 SQ SEQUENCE: 83 AA; 9811 MW; 2E1204E5DD72C418 CRC64;

Query Match: 25.1%; Score: 117.5; DB: 11; Length: 83;
 Best Local Similarity: 35.8%; Pred. No: 0.00061; Mismatches: 24;
 Matches: 24; Conservative: 18; Mismatches: 24; Indels: 1; Gaps: 1;

61 CHEKLE 6-

WAD/12 ID 028714 ,PRELIMINARY; PRT; 73 AA.
AC 028714;

DT 01-NOV-1986 (TMBLREL. 01, Last annotation update)
DT 01-OCT-2006 (TMBLREL. 15, Last annotation update)
DE MACROPHAGE MIGRATION INHIBITION FACTOR-RELATED PROTEIN-8 (FRAGMENT),
DE ON

OS Oryctolagus cuniculus (krotob); OC Eukaryota; Mammalia; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus. OX NCBI TaxID:9885;

RP SEQUENCE FROM N.A.
RC STRAIN=NEW ZEALAND
RX MEDLINE=94198229;

RA
MEDLINE:94108229; PUBMED:0135323
Mori S., Goto F., Murakami K., Ohkawara S., Yoshinaga M.;
RT
"Dynamic changes in mRNA expression of neutrophils during the course
of acute inflammation in rabbits";
RT
RL
INT. Immunol. 6:149-156 (1994).
DE
EMR: 88042281
DE
EMR: 88042281

DR INTERPRO; IPR01751; -. DR INTERPRO; IPR02048; -. DR PFAM; PF01023; S_100; 1. ENSEMBLE 73 73 73

Query Match	24.0%	Score 112.5;	DB 6;	Length 73;
Best Local Similarity	38.2%	Pred. No. 0.0015;		
Matches 29; Conservative	12;	Mismatches 30;	Indels 5;	Gaps 2;

QY	2	TKLLEHLEGVNIHIOQISVERKHDPTLSKGELKQLLTKELANVNIKNDKAVDTEFOGL	61
1	1	1	1
3	TDLNLNSLISIVVHKCSQGKQNTAL-YGDLLKRLATECPOYSK---KDKADSWRKL	577	577

Db 58 | DINSDGASNFOEFFLIL 73

Search completed: June 8, 2001, 15:04:20
Job time: 75 sec

OC Mammalia; Eutheria; Rodentia; Sciuromyini; Muridae; Murinae; *Rattus*.
 OX NCBI_TAXID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC SPAINWILSTER;
 RA Konrad L., Gabius H.-J., Aumuller G.;
 RT "Sequence and expression study of cathepsin in the rat testis.";
 DR Submitted (FEB-1999) to the EMBL/GenBank/DBJ databases.
 EMBL: AJ132717; CAB42002.1; -
 HSSP: P30801; 1A03;
 DR INNPRO; IPR001751; -
 DR INNPRO; IPR002048; -
 DR INNPRO; IPR002048; -
 DR PFAM; PF00036; efnand; 1.
 DR PROSITE; PS00018; EF_HAND; UNKNOWN_1;
 DR PROSITE; PS00030; S100_CABP; 1.
 KW CYCLIN.
 SQ SEQUENCE 89 AA; 10035 MW; 2A1A163D57DC87 CRC64;
 DB 63 NKQKEVNEQETVAFGLAL 82

RESULT 12

P7342 PRELIMINARY; PRM; 98 AA.

ID P7342; PRELIMINARY; PRM; 98 AA.

AC P7342; PRELIMINARY; PRM; 98 AA.

DT 01-MAY-1997 (TREMBREL. 03, Created)
 01-MAY-1997 (TREMBREL. 03, Last sequence update)

DT 01-OCT-2000 (TREMBREL. 15, Last annotation update)

OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Bovinae; Bos.
 OX NCBI_TAXID=9913;
 RN [1]
 PP. SEQUENCE FROM N.A.

Okamura Y., Shishibori T., Matsutomo M., Yamashita K., Maeda H., Kobayashi R.;
 RT "Molecular cloning of a new 8kDa protein, isolated with Amlexanox couple d column chromatography.";
 RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
 EMBL: AB001567; BAA19411.1; -
 HSSP: P08206; 1A0P;
 DR INNPRO; IPR001751; -
 DR INNPRO; IPR002048; -
 DR PFAM; PF00103; S_100; 1.
 SQ SEQUENCE 98 AA; 11233 MW; 77858426025E643B CRC64;

Query Match 26.4%; Score 123.5; DB 6; Length 98;
 Best Local Similarity 33.3%; Pred. No. 0_00021; Mismatches 26; Conservativeness 20; Indels 3; Gaps 1;

QY 1 MTKLEELLEGHINIFHQSVRKGHFDTLSKGELKQLLTKEANTNIKNDKAVIDEFOG 60
 DR 6 LTLLEAAIETVVTFFPAGREGRKGSLSVNEPKELVQPLHL--LKDVOSLDERKMS 62
 QY 61 LPANODSDFQDFQFISLV 78
 DR 63 FDFVNQDSLELFSEYWRLLI 80

RESULT 13

Q9UDP3 PRELIMINARY; PRM; 104 AA.

ID Q9UDP3; PRELIMINARY; PRM; 104 AA.

AC Q9UDP3; PRELIMINARY; PRM; 104 AA.

DT 01-MAY-2000 (TREMBREL. 13, Created)
 01-MAY-2000 (TREMBREL. 13, Last sequence update)

DT 01-OCT-2000 (TREMBREL. 15, Last annotation update)

DE WIGSC:H_NHO456N16.1 PROTEIN.

OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. NCBI_TAXID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-99003792; PubMed-9947074;
 RA Silston J.E., Waterston R.;
 RT "Toward a complete human genome sequence.";
 RL Genome Res. 8:1097-1108(1998).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA All J., Wohldmann P., Duckels G.;
 RT "The sequence of Homo sapiens BAC clone RP11-456N16.";
 RL Submitted (JAN-1999) to the EMBL/GenBank/DBJ databases.
 RN [3]
 RP SEQUENCE FROM N.A.
 RA Waterston R.H.;
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
 RN [4]
 RP SEQUENCE FROM N.A.
 RA Waterston R.;
 RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AC006579; AAD21786.1; -
 DR HSSP: P08206; 1A0P;
 DR INNPRO; IPR001751; -
 DR INNPRO; IPR002048; -
 DR PFAM; PF00103; S_100; 1.
 SQ SEQUENCE 104 AA; 11509 MW; 2316ABC84C9CF12A CRC64;

Query Match 25.7%; Score 120.5; DB 4; Length 104;
 Best Local Similarity 32.9%; Pred. No. 0_00042; Mismatches 26; Conservativeness 19; Indels 1; Gaps 1;

QY 8 LEGIVNTHQSVRKGHFDTLSKGELKQLLTKEANTNIKNDKAVIDEFOGLDANQDE 67
 DR 14 IOSLIAYQVAGKDGYNCNLNSTEFLSFMNTELAFTKNDPGVLDRM-KKLDVSSDG 72

QY 68 QDQFQEISIVALKAA 86
 DR 73 QLDPFPKFLNLIGGLAVACH 91

RESULT 14

Q9QVR5 PRELIMINARY; PRM; 83 AA.

ID Q9QVR5; PRELIMINARY; PRM; 83 AA.

AC Q9QVR5; PRELIMINARY; PRM; 83 AA.

DT 01-MAY-2000 (TREMBREL. 13, Created)
 01-MAY-2000 (TREMBREL. 13, Last sequence update)

DT 01-OCT-2000 (TREMBREL. 15, Last annotation update)

DE CALPROTECTIN LARGER COMPONENT MRP-14 (FRAGMENT).
 OS Rattus sp.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciuromyini; Muridae; Murinae; Rattus. NCBI_TAXID=10118;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-9595365; PubMed-7665906;
 RA Yui S., Mikami M., Yamazaki M.;
 RT "Purification and characterization of the cytotoxic factor in rat peritoneal exudate cells: its identification as the calcium binding protein complex, calprotectin.";
 RT J. Leukoc. Biol. 58:307-316(1995).

AC	Q9T56;	PRELIMINARY;	PRT;	101 AA.
DT	01-MAY-2000 (TREMBLrel. 13, Created)			
DT	01-MAY-2000 (TREMBLrel. 13, Last sequence update)			
DT	01-OCT-2000 (TREMBLrel. 15, Last annotation update)			
DE	METAPASTIN.			
GN	MPS1.			
OS	Canis familiaris (Dog).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.			
OX	NEBL_TAXID=9615;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	STRAIN=MADIN-DURBY; TISSUE=MADIN DARBY CANINE KIDNEY (MDCK);			
RA	Myamori H., Hasagawa K., Kim K., Sato H.;			
RT	"Expression of metastasis associated mts1 gene is co-induced with membrane type-1 matrix metalloproteinase (MMP-1-MMP) during oncogenic transformation and tubular formation of madin darby canine kidney (MDCK) epithelial cells."			
RT	Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.			
EMBL	AB031064; BAA83419.1; -			
HL	HSPP; P30801; IAO3.			
DR	INTERPRO; IPR01751; -			
DR	INTERPRO; IPR02048; -			
DR	PFAM; PF00036; erhand; 1.			
DR	PFAM; PF01023; S_100; 1.			
DR	PROSITE; PS00303; S100_CABP; 1.			
DR	SEQUENCE 101 AA.; 11847 MW; 5535387DB7577DF0 CRC64;			
RESULT	9			
091H57				
ID	Q9YR57; PRELIMINARY;	PRT;	217 AA.	
AC_	Q9YR57; [2]			
01-MAY-1999 (TREMBLrel. 10, Created)				
01-MAY-1999 (TREMBLrel. 10, Last sequence update)				
01-OCT-2000 (TREMBLrel. 15, Last annotation update)				
DT				
DE				
GN	P260F CDNA.			
OS	Rana catesbeiana (Bull frog); Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.			
OC	[1]			
OX	NCBI_TAXID=8400;			
RN	SEQUENCE FROM N.A.			
RP	TISSUE=OLFACTORY;			
RX	MEDLINE-9908015; PubMed-9791000;			
RA	Miwa N., Kobayashi M., Takamatsu K., Kawamura S.;			
RT	"Purification and molecular cloning of a novel calcium-binding protein, P260f, in the frog olfactory epithelium."			
RT	Biochem. Biophys. Res. Commun. 251:860-867(1998).			
DR	EMBL; D50333; BAA34388.1; -			
DR	HSPP; P08206; I44P.			
DR	INTERPRO; IPR001751; -			
DR	INTERPRO; IPR002048; -			
DR	PFAM; PF01023; S_100; 2.			
SEQUENCE	217 AA.; 24494 MW; 0403689A9E43810B CRC64;			
RESULT	11			
09R2B7				
ID	Q9R2B7; PRELIMINARY;	PRT;	89 AA.	
AC	Q9R2B7; [2]			
01-MAY-2000 (TREMBLrel. 13, Created)				
01-MAY-2000 (TREMBLrel. 13, Last sequence update)				
01-OCT-2000 (TREMBLrel. 15, Last annotation update)				
DE				
DE	CALCYCLIN.			
GN	CACY.			

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Om protein - protein search, using sw model

Run on: June 8, 2001, 15:03:05 ; Search time 19.35 Seconds
(without alignments)
557.268 Million cell updates/sec

Title: US-09-227-854-2
Perfect score: 468

Sequence: 1 MTKLEEHLEGIVNIFHOYSV. EFSILSYAIAALKAHYHTHE 92

Scoring table: BLOSUM62
Gapop 10.0 , gapext 0.5

Searched: 374700 seqs, 117207915 residues

1 number of hits satisfying chosen parameters: 374700

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_15; *
1: SP_archea; *
2: SP_bacteria; *
3: SP_fungi; *
4: SP_human; *
5: SP_invertebrate; *
6: SP_mammal; *
7: SP_mhc; *
8: SP_orcanelle; *
9: SP_phage; *
10: SP_plant; *
11: SP_rhodent; *
12: SP_unclassified; *
13: SP_vertebrate; *
14: SP_virus; *

Pred No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match Length	DB ID	Description
1	248	53.0	70	6 Q9TR16
2	206.5	44.1	114	4 Q9NYM0
3	189	40.4	101	13 Q93395
4	186	39.7	92	13 Q9PSF6
5	168	35.9	591	4 Q01720
6	158	33.8	1218	4 Q05331
7	154	32.9	79	11 Q9TL08
8	149.5	31.9	101	6 Q9TV56
9	144.5	30.9	217	13 Q9YH57
10	144	30.8	495	4 Q9UBG3
11	139.5	29.8	89	11 Q9R2B7
12	123.5	26.4	98	6 P79342
13	120.5	25.5	104	4 Q9UDP3
14	117.5	25.1	83	11 Q9QVR5
15	112.5	24.0	73	6 Q98714
16	96	20.5	493	5 Q15872
17	95	20.3	473	10 Q9SE24
18	92.5	19.8	55	6 Q9TSB1
19	90	19.2	523	10 Q9SE25

ALIGNMENTS

RESULT	1	Q9TR16	PRELIMINARY;	PRT;	70 AA.
ID	Q9TR16				
DT	01-MAY-2000	(TREMBL1; 13; Last sequence update)			
DT	01-OCT-2000	(TREMBL1; 15; Last annotation update)			
DE	CORNER-ASSOCIATED ANTIGEN, CO-AG-CALGRANULIN C HOMOLOG				
OS	Bos taurus (Bovine)				
OC	Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovinae; Bos; OC				
OX	BOVIDAE; BOVINE; BOS; OX				
RN	[1]				
RP	SEQUENCE				
RX	MEDLINE=96181854; PubMed=8603881;				
RA	Liu S.H., Gottsch J.D.;				
RT	"Amino acid sequence of an immunogenic corneal stromal protein"; Invest. Ophthalmol. Vis. Sci., 37:944-948(1996).				
DR	HSP: P05638; 1MHO;				
INTERPRO	IPR01751; -				
DR	INTERPRO; IPR00248; -				
PFAM	PF01023; S_100; 1.				
DR	SEQUENCE 70 AA.; 8134 MW; 7D52B9A974AD53A5 CRC64;				
Query Match	53.0%; Score 248; DB 6; Length 70;				
Best Local Similarity	68.6%; Pred. No. 6.1e-16;				
Matches	48; Conservative 10; Mismatches 12; Indels 0; Gaps 0;				
QY	2 TKLEBLLEGIVNIFHOYSVKGHDTSKGELKOLLTKELENNTNIKNDKAVIDEFIGL 61				
Db	1 TKLEBLLEGIVNIFHOYSVKGHDTSKGELKOLLTKELENNTNIKNDKAVIDEFIGL 60				
QY	62 DANDEQVDF 71				
Db	61 DADKKGAVVF 70				

RESULT 2
Q9NYM0
PRELIMINARY;
ID Q9NYM0

Q9NYM0 homo sapien
Q93395 salvelinus
Q9PSF6 ictalurus p
Q01720 homo sapien
Q05331 homo sapien
Q9TL08 mus musculus
Q9TV56 canis familiaris
Q9YH57 rana catesbeiana
Q9UBG3 homo sapien
Q9R2B7 rattus norvegicus
P79342 bos taurus
Q9UDP3 homo sapien
Q9QVR5 rattus sp.
Q98714 orctodilagus
Q15872 paramelium
Q9SE24 oryza sativa
Q9TSB1 bos taurus
Q9SE25 oryza sativa